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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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QM32/0214

EXAMINER

BLAU, S

ART UNIT

PAPER NUMBER

3711

DATE MAILED:

02/14/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/193,928

Applicant(s)

Atsumi et al

Examiner

Stephen Blau

Group Art Unit
3711



☒ Responsive to communication(s) filed on Dec 6, 1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-20 is/are pending in the application.

Of the above, claim(s) 19 and 20 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-18 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 5-6

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit:

DETAILED ACTION

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification does not disclose one shaft formed of organic, inorganic **and** metal reinforcing fibers as stated in claim 18.

Drawings

2. The drawings of this application have not been reviewed by the Draftsman. Upon allowance of this case the drawings will be evaluated under 37 CFR 1.81.
3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the shaft formed of organic, inorganic **and** metal reinforcing fibers in claim 18 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

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Claim Rejections - 35 USC § 112

4. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 18 recites the limitation "organic, inorganic and metal reinforcing fibers". There is insufficient antecedent basis for this limitation in the specification.

Double Patenting

5. Claim 3 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 4. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-2, 5-6, 9-10, 13-14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jackson in view of Turner, Kobayashi (4,682,504) and Eberle.

Jackson discloses a first angled layer (14), a first straight layer (16), a second angled layer (12), a second straight layer (18), each layer extending over a length of a shaft (Figs. 1-2), fibers reinforced composite material, fibers of a second angled layer being oriented at an angle relative to a longitudinal direction of a shaft in form of 45 degrees (Col. 2 Lns. 43-64, Col. 3 Lns. 46-64), a second angled layer having a thickness of .1mm in form of 4mils thick (Col. 2, Lns. 1), a weight of 50 grams (Col. 2, Lns. 12-20), smaller weight shafts (Col. 3, Lns. 17-25), comparable properties of flex, shear and torsional resistance (Col. 6, Lns. 21-26), and organic fibers (Col. 1, Lns. 56-67). An artisan skilled in the art of designing a club which has sufficient strength to play golf and fit the swing strength of a player would have selected a suitable torsional strength and crush strength in which a torsional strength of at least 120 kgfmxdegrees and a crush strength of 10 kg/10mm are included.

The differences between the claims and Jackson are that Jackson does not disclose a shaft weight of 30-40 grams, a torsional strength of at least 120 kgfmxdegrees and a crush strength of 10 kg/10mm. Turner discloses that less material for a shaft makes a shaft more flexible (Col. 8, Lns. 63 through Col. 9 Ln. 4). Kobayashi discloses that for weak players who have a low head speed a shaft having more flexure and torsion is more suitable (Col. 1, Lns. 22-25). Eberle

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discloses that shaft length depends on a height of a player (Col. 3 Lns. 42-50). In view of the patents of Turner, Kobayashi and Eberle it would have been obvious to modify the shaft of Jackson to have shaft which weighs 30-40 grams due to less material used in manufacturing a shaft in order to provide a shorter shaft to a shorter golfer and/or to provide a shaft to a golfer who requires a less stiffness due to a weak swing.

It would have been obvious to modify the shaft of Jackson to have a torsional strength as defined by the claims in order to minimize the amount of inaccuracies added to the ball at impact due to torsional flexing. It would have been obvious to modify the shaft of Jackson to have a crush strength as defined by the claims in order to minimize the possibility of a shaft breaking when a club impacts the ground when hitting a ball.

8. Claims 3-4, 7-8, 11-12 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jackson in view of Turner, Kobayashi (4,682,504) and Eberle as applied to claims 1-2, 5-6, 9-10, 13-14 and 18 above, and further in view of Hedrick and Cheng.

The difference between the claims and Jackson is that Jackson does not disclose fibers of a second angled layer being oriented at an angle in a range of from 60 to 75 degrees relative to a longitudinal direction of a shaft. Hedrick discloses that angled fibers provide torsional stiffness and fibers parallel to a longitudinal axis of a shaft provide longitudinal stiffness (Col. 2, Lns. 11-30). Cheng discloses angled fibers in a range of 60-75 degrees (Col. 3, Lns. 1-12). In view of the patents of Hedrick and Cheng it would have been obvious to modify the shaft of Jackson to have

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fibers oriented as defined by the claims for the second angled layer in order to provide a shaft with more torsional stiffness and less longitudinal stiffness for a golfer who prefers this type of shaft due to the golfers swing.

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jackson in view of Turner, Kobayashi and Eberle as applied to claims 1-2, 5-6, 9-10, 13-14 and 18 above, and further in view of Cecka.

Cecka discloses a tapered shaft having a tip end wall thickness substantially twice the thickness of a butt end wall thickness (Figs. 8-9). In view of the patent of Cecka it would have been obvious to modify the shaft of Jackson to have each layer twice the thickness at the tip end compared to the butt end in order to have a tapered shaft yet a strong tip end to prevent the tip end from fracturing.


Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kobayashi (5,269,518) discloses shafts weight 30-40 grams.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Blau whose telephone number is (703) 308-2712. The examiner is available Monday through Friday from 8 a.m. to 4:30 p.m.. If the examiner is unavailable you can contact his supervisor Jeanette Chapman whose telephone number is (703) 308-1310. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0858.

slb/ 9 February 2000



JEANETTE CHAPMAN
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